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A new record of *Leucoptera ermolaevi* Seksjaeva (Lepidoptera, Lyonetiidae) from Japan

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Abstract *Leucoptera ermolaevi* Seksjaeva, 1990 feeding on *Acer ginnala* (Aceraceae) is newly recorded from Nagano, Japan. The male genitalia are redescribed based on Mey (1994). The female genitalia are illustrated and described for the first time.

Key words New record, *Leucoptera ermolaevi*, Lyonetiidae, Lepidoptera, Japan, *Acer ginnala*, leaf miner.

Introduction

Leucoptera ermolaevi feeding on *Acer ginnala* (Aceraceae) was originally described by Seksjaeva (1990) in Southern Primorye, the Russian Far East. In the course of research on the family Lyonetiidae, we found the mines of this species in several localities of Nagano Prefecture, central Honshu, Japan.

In this paper, *Leucoptera ermolaevi*, is newly recorded from Japan, with redescription of the male genitalia and description of the female genitalia. The biology is briefly documented. Terminology mainly follows Kuroko (1964), and Mey (1994) for the genitalia.

Leucoptera ermolaevi Seksjaeva (Figs 1–2)

Leucoptera ermolaevi Seksjaeva, 1990, *Vestn. Zool.* **1990**: 63, fig. 2; Seksjaeva, 1997: 473, fig. 8.

Adult (Figs 1A, 2A). Wingspan 5–6 mm.

Male genitalia (Figs 2B–G). Eighth segment partially enveloping genitalia. Tegumen and vinculum fused, very large, weakly sclerotized. Pedunculus digitate, broad at base, tapered and slightly curved apically. Saccus slender, elongate. Valva triangular. Pleural lobes, uncus and gnathos absent. Aedeagus short and sclerotized, pen-like, distal half semi-triangular. Bulbus ejaculatorius large, spindle-shaped.

Female genitalia (Figs 2H, I). Papillae anales bluntly truncate, sclerotized, moderately setose. Apophyses broad and short, strongly sclerotized, rounded apically. Ostial plate sclerotized, lamellae weakly sclerotized, ductus bursae and corpus bursae membranous, very weak, simple, comparatively broad, without signum.

Material examined. Japan, HONSHU, Nagano Pref.: Sugadaira, 1 ♂, 28. IV. 1964, 1 ♂, 22. VII. 1964, 14 ♂ 2 ♀, 23. VII. 1964, 3 ♂ 1 ♀, 25. VII. 1964 (slide no. OPU-AHN021), 2 ♀, 29. VII. 1964 (slide nos OPU-AHN019, 020), 2 ♂ 5 ♀, 30. VII. 1964, 2 ♂, 3. VIII. 1964, H.

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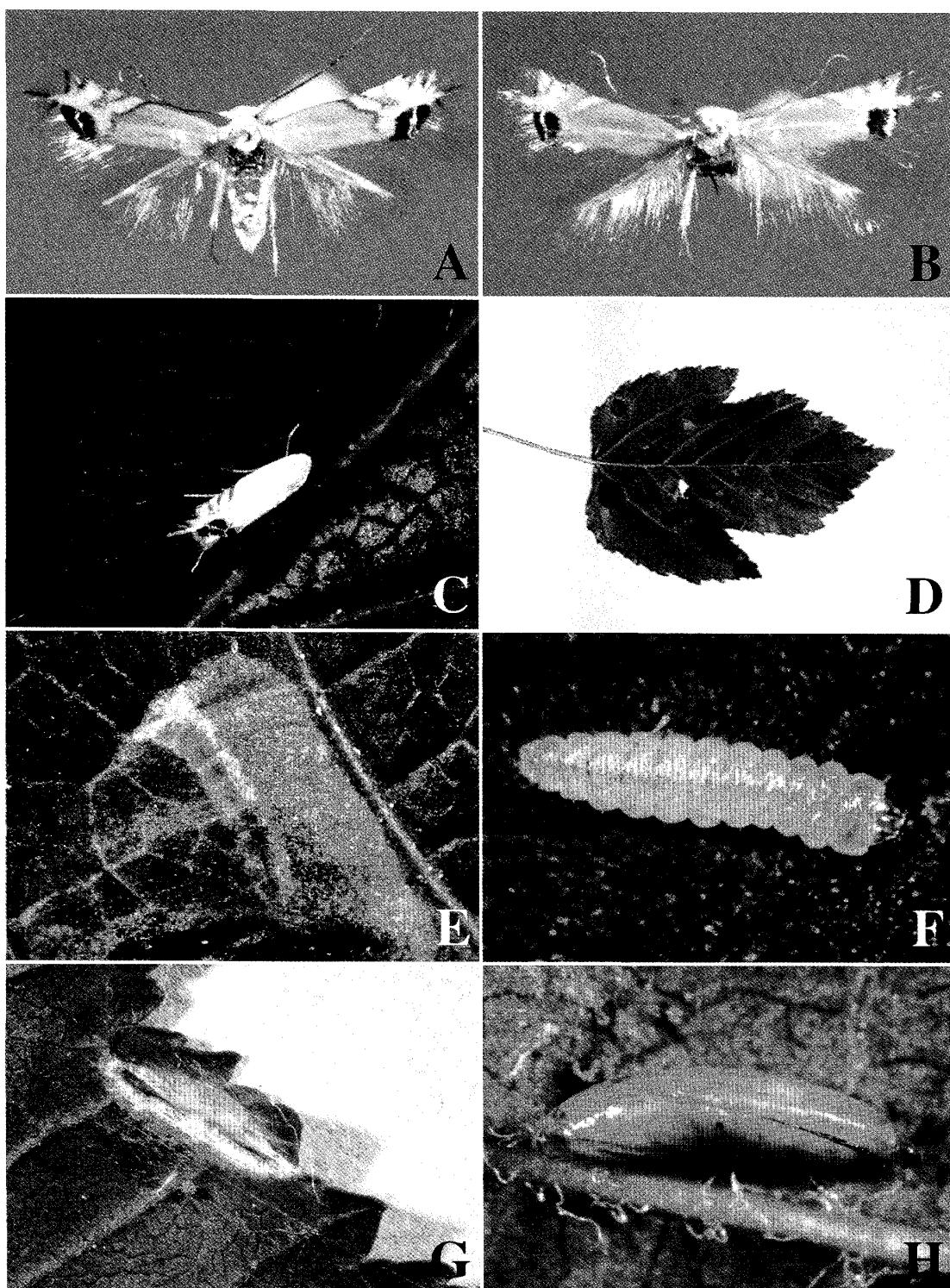


Fig. 1. Adults, mine, larva, cocoon and pupa of *Leucoptera* spp. A, C-H. *L. ermolaevi* from Nagano, Japan. B. *L. aceris* from Belgium. A-B. Adult. C. Adult, resting posture. D. Mine on the host plant, *Acer ginnala* (Aceraceae). E. Larva in a mine. F. Mature larva, taken out from the mine. G. Cocoon. H. Pupa, taken out from the cocoon.

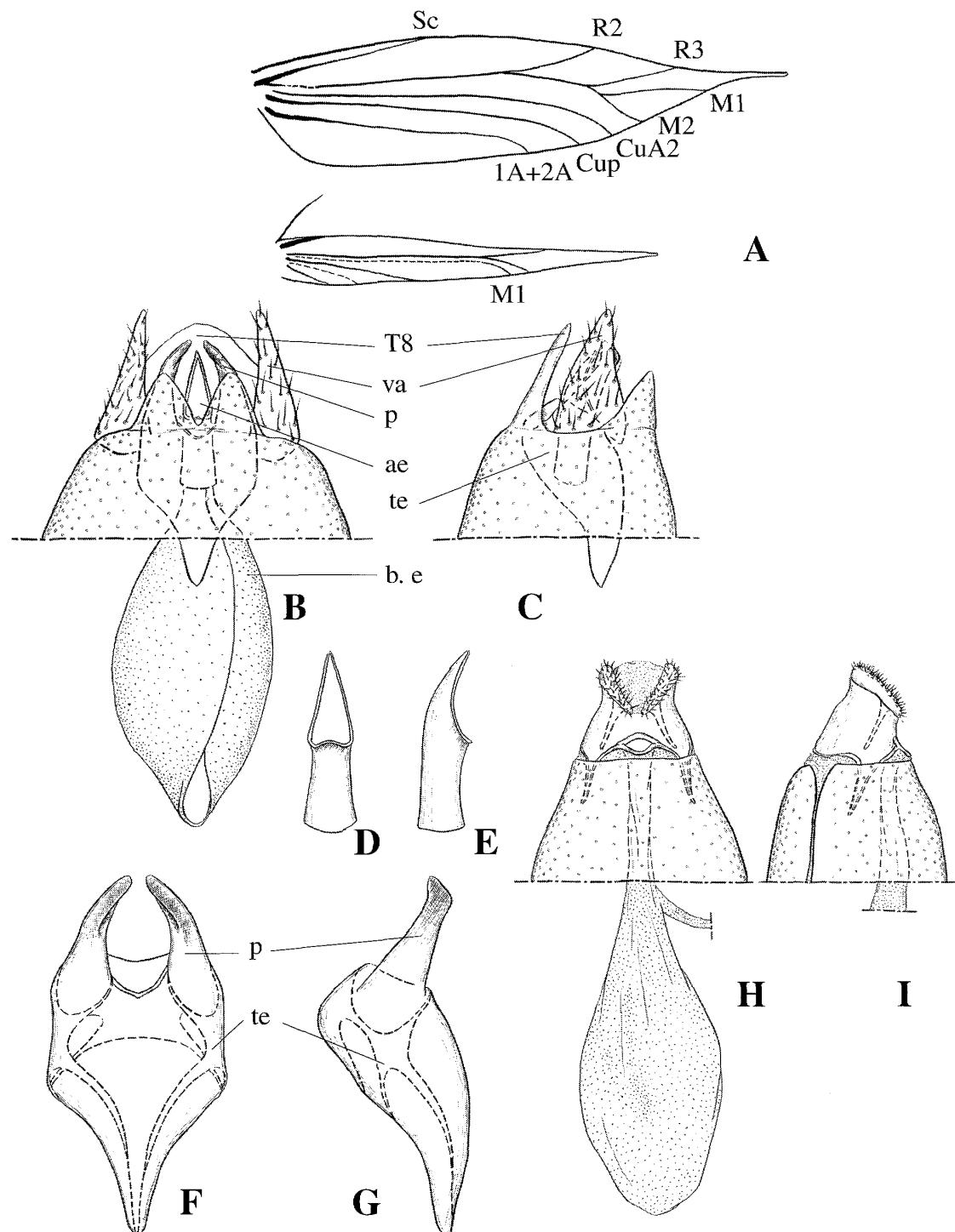


Fig. 2. Wing venation, male and female genitalia of *Leucoptera ermolaevi*. A. Wing venation. B. Male genitalia, ventral view. C. *Ditto*, lateral view. D. Aedeagus, ventral view. E. *Ditto*, lateral view. F. Tegumen and valvae, ventral view. G. *Ditto*, lateral view. H. Female genitalia, ventral view. I. *Ditto*, lateral view. (ae: aedeagus; b.e: bulbus ejaculatorius; p: pedunculus; te: tegumen; T8: eighth tergum; va: valva).

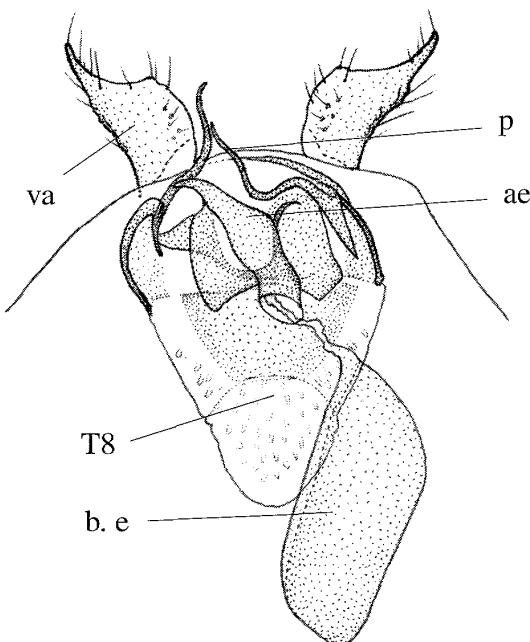


Fig. 3. Male genitalia of *Leucoptera aceris* (the figure was drawn from slide preparation).

Kuroko leg.; Ohkuchizawa, Toyoshina machi, 1 ♂, 13. X. 2000, N. Hirano leg. (slide no. OPU-AHN072); same locality, 1 ♀, 5. VII. 2000, 1 ♀, 22. X. 2000, 1 ♀, 14. XI. 2000, 1 ♂, 15. XI. 2000, 2 ♀, 22–27. XI. 2000, K. Sugisima leg.; Karamomo [Okada], Matsumoto City, 1 ♂, 5. V. 1975, 1 ♀, 7. V. 1975, 1 ♀, 8. V. 1975 (slide no. OPU-AHN071), 2 ♂, 10. V. 1975, 2 ♂ 2 ♀, 13–15. V. 1975, 1 ♂ 1 ♀, 19. V. 1975, N. Hirano leg.; Okada, Matsumoto City, 5 ♂ 4 ♀, 29. VII. 2001 (slide nos OPU-AHN068 ♂, 088 ♂, 069 ♀ and 070 ♀), T. Hirowatari, N. H. Ahn & B. W. Lee leg.; Tateshina-kougen, 1 ♀, 26. III. 1970, H. Kuroko leg.; Kaida, Kiso, 1 ♂ 3 ♀, 21. VII. 1975, T. Kumata leg.

Distribution. Japan, Honshu (Nagano Prefecture); Russia (Southern Primorye).

Biology. The larvae make an irregular blotch mine on the leaves of *Acer ginnala* (Aceraceae). Several pale-green or pale-brown mines are usually found on a single leaf. One to several larvae are occupying a single mine. Dark brown grains of frass are gathered at the central area. The mature larvae make a white spindle-shaped cocoon (about 5 mm in length), which is densely spun and covered by a thin silken texture. At Okada, Matsumoto City, Nagano Prefecture, the adults appear in May and from the middle of July to the beginning of August, which suggests the species repeats more than 2 generations in a year.

Remarks. The genus *Leucoptera* Hübner, 1825 comprises about 80 species and the host plants were recorded for 50% of the species and more than half of them belong to the family Leguminosae (Bradely & Crater, 1982). Besides *Leucoptera ermolaevi*, only *L. aceris* (Fuchs, 1903) (host: *Acer campestre*, *A. monspessulanum*, *A. platanoides*) and *L. nieukerkeni* (Mey, 1994) (host: *A. monspessulanum*) from Europe were known to feed on plants of the family Aceraceae.

In the original description, Seksjaeva (1990) compared *Leucoptera ermolaevi* with *L. lotella* (Stainton, 1859). However, in the absence of pleural lobe, *L. ermolaevi* is closely related to *L. aceris* (Fuchs, 1903), from which it is distinguished by the following points:

- 1) First and second costal streaks on the forewing are nearly parallel in *L. ermolaevi* while

in *L. aceris* those are approximating toward disc.

- 2) Tornal patch is semi-triangular or trianguloid to oval in *L. ermolaevi*, but rectangular in *L. aceris*.
- 3) Valva is triangular in *L. ermolaevi*, but rectangular and dorso-distal portion elongate in *L. aceris*.
- 4) Pedunculus is digitate and slightly curved apically in *L. ermolaevi*, while slender and winding in *L. aceris*.

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References

Bradley, J. D. & D. J. Carter, 1982. A new lyonetiid moth, a pest of winged-bean. *Syst. Ent.* **7**: 1-9.
 Kuroko, H., 1964. Revisional studies on the family Lyonetiidae of Japan (Lepidoptera). *Esakia* **4**: 1-61.
 Mey, W., 1994. Taxomische Bearbeitung der westpaläarktischen Arten der Gattung *Leucoptera* Hübner, [1825], s. l. *Dt. ent. Z. (N. F.)* **41** (1): 173-234.
 Seksjaeva, S. V., 1990. Notes on the Cemostominae moths (Lepidoptera, Lyonetiidae) from Southern Primorye area, with description of two new species. *Vestn. Zool.* **1990**: 62-64.
 ———, 1997. Lyonetiidae. In Ler, P. A. (Ed.), Trichoptera and Lepidoptera. Pt 1. *Key to the Insects of Russian Far East* **5** (1): 469-474. (In Russian).

摘要

カラコギカエデシロハモグリ (新称) (ハモグリガ科) の日本からの記録 (安 能浩・廣渡俊哉・平野長男・黒子 浩)

カラコギカエデシロハモグリ *Leucoptera ermolaevi* は Seksjaeva (1990) によってロシア沿海州から記載されたが、長野県のいくつかの地点でも採集されたので報告する。成虫は開張約 5 mm。同じカエデ科を寄主とするヨーロッパ産の *L. aceris* (Fuchs, 1903) にもっとも近縁であると思われるが、*L. aceris* は本種より前翅の 1 番目と 2 番目の costal streak の間隔が広く、下方に行くほど狭くなり間の黄色斑が三角形になるが、本種では四角となる。また、前翅肛角にある鉛色を帯びた金属紋は *L. aceris* では四角となるが、本種では三角形あるいは橢円形となる。

本種の♂交尾器では、バルバが三角形となるが、*L. aceris* では全体に四角形で背面先端が鉤状に伸長していること、また、*L. aceris* の pedunculus は細く湾曲することなどで識別できる。

幼虫は、カラコギカエデの葉に不規則な斑状潜孔を作り、潜孔の中央に糞を残す。本種の幼虫は長野県の松本市、菅平、開田高原などで 5 月上旬-8 月上旬に採集されており、年に 2 回以上発生すると思われる。

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